

Correlation of *Helicobacter pylori* Genotypes with Severe Active Chronic Gastritis in Iranian Patients

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Background & Objectives: Infection with *Helicobacter pylori* (*H. pylori*) is a crucial risk factor in development of gastric cancer and is associated with persistent gastritis, peptic ulcers, MALT lymphoma. These different clinical outcomes are due to diversity in *H. pylori* genotypes and virulence capacities. The aim of this study was to assess diversity of *H. pylori* genotypes in an Iranian population with different gastro duodenal disorders.

Methods: Total of 71 isolates of *H. pylori* from patients with different gastro duodenal disorders were analyzed after culture and identification. Genotyping was done for *cagA*, *vacA*, *iceA* and *babA2* by specific primers for each allele using polymerase chain reaction. All patients' pathologic and clinical data and their relation with known genotypes were analyzed by using SPSS ver. 13.0 software.

Results: Based on analysis of the *cagA* gene (positive or negative), *vacA* s-region (*s1* or *s2*), *vacA* m-region (*m1* or *m2*), *iceA* allelic type (*iceA1* and *iceA2*) and *babA2* gene (positive or negative), twenty different genotypic combinations were recognized. The most prevalent genotypes in *cagA* positive isolates was *cagA*+/*vacA**s1m2/iceA1*+/*A2*+/*babA2*+ (38.6%) and in *cagA* negative isolates was *cagA*-/*vacA**s1m2/iceA*-/*babA2*+ (25.9%). Three following genotypes (*cagA*+/*vacA**s1m2/iceA1*+/*A2*+/*babA2*+), (*cagA*+/*vacA**s1m1/iceA1*+/*A2*+/*babA2*+), and (*cagA*+/*vacA**s1m1/iceA2*+/*babA2*+) showed significant associations with severe active chronic gastritis (70.5%, 62.5% and 100%, respectively).

Conclusion: Our results showed that most of the *H. pylori* isolates were highly virulent on the basis of the main clinically allelic variants in three or four virulence factors they could carry. The Iranian isolates predominantly possessed different genotypes which showed vast diversities. Significant association of the noted genotypes with severe active chronic gastritis proposed this genotyping panel as a suitable tool for detection of virulent *H. pylori* isolates and could be a valuable guidance for determination of clinical outcomes.

Keywords: *Helicobacter pylori*; CagA; VacA; IceA; BabA2